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SUPPLEMENT

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PREFACE

The original Constitution prepared by the parent (Cornell) Chapter was formulated to serve the purposes of a broad organization* so well that at the First General Convention in 1893 it was adopted with only minor amendments by vote of all chapters. Both documents were printed, the first in 1887 and 1888, and the second in 1893.

The policy of the Society in granting charters was incorporated as Appendix I after the Second General Convention in 1895 which also modified the procedure in the foundation of new chapters. Most important of all was the establishment of the Council as the governing body of the organization. The edition including these items was printed in 1895.

The Third General Convention in 1897 abolished the veto power of three negative ballots in the election of new members, and eliminated Greek chapter letters (Appendix III). In 1899 the Fourth General Convention, modified the document to provide for a more satisfactory selection of members; and the Constitution was printed in 1900. This form was reprinted at least thrice: in 1901, 1904, and 1906.

The Ninth General Convention in 1908 again amended the Constitution but it was not reprinted in its new form. In 1911 the Thirteenth General Convention approved amendments providing for non-resident membership and granting greater powers to the Council. This document, printed in 1912, remained unaltered until the last Convention, at which were made changes incorporated in the present pamphlet.

Every convention has seen amendments proposed and vigorously discussed. It is clear that the organic law has undergone constant change in the direction of greater care in the selection of new members and increased power in the hands of the general conventions.

*See Quarter Century Record and History, page 13.

Amendments to the

CONSTITUTION

OF THE

SOCIETY OF THE SIGMA XI

in full as adopted since December 1914

With references to the place
in which such changes are recorded

CONSTITUTIONAL AMENDMENTS

The last edition of the Constitution was printed in the form approved by the Convention of December 1914. In this number of the *QUARTERLY* are included all amendments that have been adopted from that time to date. At the present moment only two amendments are pending (see *QUARTERLY*, vol. 6, p. 6). The amendments printed in this number will be reprinted and added to the edition of December 1914 to bring those copies up to date. The attention of chapters is called to the fact that copies of the Constitution can be secured gratis for distribution to members. Some chapters follow the desirable practice of giving a copy to each initiate.

(Editorial, Sigma Xi *QUARTERLY*, v. 6, p. 77.)

PRINTED FOR THE SOCIETY OF THE SIGMA XI
DECEMBER 1918

CONSTITUTION OF THE SOCIETY OF SIGMA XI

AMENDMENTS ADOPTED SINCE THE PRINTING OF THE LAST EDITION

DATED DECEMBER 28, 1914

ARTICLE III

Section 1 amended at the New York Convention (1916) to read as follows:

"The Society shall consist of active, associate, alumni and honorary members. (SIGMA XI QUARTERLY, vol. 5, no. 1, p. 22)

Section 2 (b) amended at the New York Convention (1916) to read as follows:

"Membership of alumni chapters shall be composed of alumni members of collegiate chapters." (SIGMA XI QUARTERLY, vol. 5, no. 1, p. 27)

Sections 6, 7, 8, 9 added at the New York Convention (1916):

SEC. 6. Each Chapter shall have the privilege of providing in its by-laws for the election of associate members.

SEC. 7. When a chapter elects to have associate members, the following and no other shall be eligible to associate membership in that chapter:

(a) Any graduate student who has shown marked excellence in two or more departments of pure or applied science.

(b) Any undergraduate student who has completed the required work of the first three years and who has shown marked excellence in two or more departments of pure or applied science.

SEC. 8. Associate members shall have the privileges of the active members, except the right to vote, with such other restrictions only as may be specifically stated in the Constitution of the Society, or by-laws of the chapter.

SEC. 9. Associate members of any chapter who may become connected with another institution at which there is a chapter whose by-laws provided for associate membership shall be entitled to enroll as associate members in the latter on presenting satisfactory credentials, but associate members of any chapter who become connected with another institution at which there is a chapter whose by-laws do not provide for associate membership, shall not be entitled to any membership in the chapter, except through specific election by the chapter. (SIGMA XI QUARTERLY, vol. 5, No. 1, p. 23)

Section 10 added at the New York Convention (1916) reads as follows:

"Any member in arrears for one year shall be duly notified of this fact by the secretary of the chapter, and in event of failure to respond within six weeks may be suspended from membership in the Society. On payment of arrearage he may be reinstated by vote of the chapter. If such reinstatement is not effected in one year his name shall be deleted from the rolls of the Society." (SIGMA XI QUARTERLY, vol. 5, no. 1, p. 26)

ARTICLE IV

Section 1 amended at the New York Convention (1916) to read as follows:

"Active and, if the chapter allows them, associate members shall be elected for any chapter by the active membership of such chapter in the manner to be hereinafter defined." (SIGMA XI QUARTERLY, vol. 5, no. 1, p. 24)

SIGMA XI QUARTERLY

ARTICLE V

Section 2 (c) amended at the New York Convention (1916) to read as follows:

"The president shall next read the following pledge, to which each novitiate shall in turn assent as his name is called: Do you hereby pledge yourself to uphold the principles of the Society of the Sigma Xi, and assume the responsibilities incumbent upon active [or associate] membership therein." (SIGMA XI QUARTERLY, vol 5, no. 1, p. 24)

Section 4 amended at the New York Convention (1916) to read as follows:

"The certificate of membership of this Society shall bear the signatures of the president and secretary of the chapter, and the seal of the Society.

The form of certificate should be as follows:

The Society of the Sigma Xi by this diploma certifies that _____ was on the _____ day of _____ in the year _____ duly elected to active [or associate] membership in the _____ chapter of the Society of Sigma Xi, and is fully entitled to all privileges granted by its constitution."

ARTICLE VI

Section 1 amended at the New York Convention (1916) to read as follows:

"SECTION I. (a) The badge or symbol to be worn by active, alumni and honorary members of the Society shall be a gold watch-chain pendant, charm, or pin of octagonal shape, bearing the monogram of the Greek letter Sigma superimposed upon the Greek letter Xi. (etc.) _____." (SIGMA XI QUARTERLY, vol. 5, no. 1, p. 25)

Section 1 amended at the Pittsburgh Convention (1917) by inserting the following paragraph:

"(b) The badge or symbol to be worn by associate members shall be a pin having the Greek letters Sigma and Xi in white on an electric blue ground. On the reverse shall be the associate member's name, name of the institution, and the date of election. The use and granting of such badge shall be optional with the several chapters." (SIGMA XI QUARTERLY, vol. 6, no. 1, p. 8)

ARTICLE X

Section 1 amended at the Columbus Convention (1915) to read as follows:

"This Constitution may be altered or amended at a convention by a two-thirds vote of the chapters represented, provided such amendment has been proposed at the preceding convention or shall have been submitted by any chapter to the several chapters through the Executive Committee not less than ninety days prior to the date of the next coming convention." (SIGMA XI QUARTERLY, vol. 4, no. 1, p. 6)

AMENDMENTS TO CONSTITUTION

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BY-LAWS

A new by-law passed at the Columbus Convention (1915) reads as follows:

"On call of the President of Sigma Xi, the Executive Committee shall hold annually at least one stated meeting, independent of other organizations, and the expenses of those in attendance shall be paid from the national treasury of Sigma Xi." (SIGMA XI QUARTERLY, vol. 4, no. 1, p. 8.)

APPENDICES

APPENDIX VIII

Extract of records of New York Convention (1916)

In the election of faculty and non-resident members, emphasis should be laid in fact, as it is in form, upon the words "noteworthy" in the phrase "noteworthy achievement," and "original" in the phrase "as an original investigator," and that routine construction or publication of routine work does not meet the spirit of the Constitution. The Executive Committee considers that publication of such scientific work and similar publication or exploitation of engineering work should precede by at least one year consideration for election of such members. (SIGMA XI QUARTERLY, vol. 4, no. 3, p. 71.)

APPENDIX IX

Adopted at New York Convention (1916) and approved again by unanimous vote at Pittsburgh (1917).

The following conditions should hold in any institution if the Executive Committee is to make a favorable report upon an application for a charter:

1. The authorities of the college or university, i. e., the trustees and the president, should be favorably disposed toward research.
2. There should be apparatus and facilities available for research.
3. The members of the faculty who sign the petition should be men who have had adequate training for research.
4. There should have been a continuous output of research from the institution for a number of years preceding the application for a charter.
5. There should be appropriations for research, or at least a certain amount of the appropriations made to the scientific department should be available for apparatus for research.

CONSTITUTION OF THE SOCIETY OF THE SIGMA XI

AS AMENDED DECEMBER 28, 1914

ARTICLE I

NAME AND OBJECT

SECTION 1. The name of this organization shall be the SOCIETY OF THE SIGMA XI; its motto Σπουδῶν Συνῶν; Companions in Zealous Research.

SEC. 2. The object of this Society shall be to encourage original investigation in science, pure and applied, by meeting for the discussion of scientific subjects; by the publication of such scientific matter as may be deemed desirable; by establishing fraternal relations among investigators in the scientific centers; and by granting the privilege of membership to such students as have, during their college course, given special promise of future achievement.

ARTICLE II

CHAPTERS

SECTION 1. A Chapter may be established at any educational institution in which scientific research work is cultivated and promoted.

SEC. 2. An Alumni chapter may be established at any place other than an educational institution, wherever the objects of the Society would be furthered.

SEC. 3. A petition for a charter for the establishment of a new chapter shall be communicated to the President of the Society, who shall refer it to the Executive Committee of the Society for consideration and report to the several chapters and to the next convention with its recommendation. A charter shall be granted by a three-fourths vote of the convention.

SEC. 4. A charter for the establishment of a new chapter shall be issued by the President immediately after the convention, granting it in the following form:

To whom it may concern. Be it known that a Charter for the establishment of a chapter of the Society of the Sigma Xi at is hereby granted to the following persons as Charter Members, conveying to them and their duly elected associates and successors all the privileges conferred by the Constitution of the Society:—

.....

.....

In witness whereof the signatures of the president and secretary and the seal of the Society are hereunto affixed on this the — day of — in the year of our Lord —.

ARTICLE III

MEMBERSHIP

SECTION 1. The Society shall consist of active, alumni, and honorary members.

SEC. 2 (a) The active membership of the chapter at any institution shall be composed of such resident professors, instructors, graduate students, and undergraduates as are members of the Society. The alumni membership of the chapter shall consist of former active members no longer connected with the institution, and such graduates as may be admitted to membership under the provision of Section 5; they shall have all the privileges of active members when present at any meeting of their chapter, except that they shall not vote at the election of new members. Members of any chapter who may become connected with another institution at which there is a chapter shall be entitled to enrollment as active members in the latter, on presenting satisfactory credentials.

(b) Membership of alumni chapters shall be composed of alumni members of collegiate chapters, and such graduates of other institutions of learning at which there are no chapters of the Society, as may be elected to membership in the Society by alumni chapters.

SEC. 3. Honary members shall be scientific workers, who have achieved eminence in some branch of pure or applied science. They shall be entitled to all the benefits of the Society, including the right to attend and take part in conventions and meetings, but not the right of suffrage.

SEC. 4. The following, and no others, are eligible to active membership in a chapter at any institution: (a) any professor or instructor of the institution who has shown noteworthy achievement as an original investigator in some branch of pure or applied science; (b) as a non-resident member, any professor, instructor or investigator, connected with a neighboring educational, scientific, or professional institution not having a chapter, who would otherwise be eligible for active membership; (c) any resident graduate who has by actual work exhibited an aptitude for scientific investigation; (d) any undergraduate in the fourth year class, or else in the class substantially equivalent thereto, who has given promise of marked ability in those lines of work which it is the object of this Society to promote. [See Appendix I, II, VI.]

SEC. 5. Any graduate of the institution of not less than five years' standing, is eligible to membership on the same conditions as prescribed for professors and instructors in (a) of Section 4.

ARTICLE IV

ELECTION OF MEMBERS

SECTION 1. Active members shall be elected for any chapter by the active membership of such chapter in the manner to be hereinafter defined.

SEC. 2. The election of members, when performed by the active membership as a body, shall be by ballot.

SEC. 3. When the election is according to Section 2 an affirmative vote of three-fourths of the active members present shall be necessary for election.

SEC. 4. When the active membership of a chapter exceeds twenty-four, the election of new members may be accomplished in the following manner:—

Nominations shall be made by active members in writing, presenting together with the name of the nominee full testimony of his eligibility signed by the nominator and a seconder. Such written nominations shall be sent to the chapter's recording secretary and by him forwarded to the chapter's president, who shall be chairman *ex officio* of a board of electors, of a membership fixed by the chapter, but which at no time shall be less than five in number. This board shall be selected from the active members by ballot at the annual election, of the chapter's officers; vacancies occurring thereafter to be filled by the board itself. A unanimous vote of the above board shall be necessary for election. [See Appendix IV.]

SEC. 5. The number of undergraduates elected during any one year shall not exceed one-fifth of the senior class in the scientific and technical courses.

SEC. 6. Honorary members shall be elected only at a convention of the Society, and by a vote of three-fourths of the delegates present.

ARTICLE V

INITIATION

SECTION 1. Such persons elected as provided for in Article IV, shall, before they exercise the privileges of membership, be initiated at such time after the election as the by-laws of each chapter shall designate, according to the following form:

Form of Initiation

SEC. 2 (a) The members-elect shall be ushered into the presence of the chapter by a marshal or marshals to be appointed by the president for the occasion.

(b) The president or his deputy shall explain the aims and objects of the Society.

(c) The president shall next read the following pledge, to which each novitiate shall in turn assent as his name is called: Do you hereby pledge yourself to uphold the principles of the Society of the Sigma Xi, and assume the responsibilities incumbent upon active membership therein.

(d) The president then addressing those who have taken the pledge, shall formally pronounce them admitted to membership in the Society of the Sigma Xi, and shall invite them to sign the constitution.

(e) Each new member shall affix his signature to the Constitution, and shall then receive from the president the certificate of membership.

(f) The president shall present the new members to the chapter.

SEC. 3. Should any member-elect be unavoidably absent from the general initiation, he may, at the pleasure of the chapter, be provided with an opportunity to assent to the pledge given in Section 2 (c) and to sign the Constitution, and the president shall then formally admit him to the Society, and present him with the certificate of membership.

Certificates of Membership

SEC. 4. The certificate of membership of this Society shall bear the signatures of the president and secretary of the chapter, and the seal of the Society.

The form of certificate should be as follows:

The Society of the Sigma Xi by this diploma certifies that _____ was on the _____ day of _____ in the year _____ duly elected to membership in the _____ Chapter of the Society of the Sigma Xi, and is fully entitled to all privileges granted by its constitution.

ARTICLE VI

INSIGNIA

SECTION 1. The badge or symbol to be worn by members of this Society shall be a gold watch-chain pendant, charm, or pin of octagonal shape, bearing the monogram of the Greek letter Sigma, superimposed upon the Greek letter Xi. The monogram may be jewelled, enameled, or embossed as desired. On the reverse side or back of the badge shall be engraved in the upper line the name of the college in which the owner was initiated, together with the date of such initiation. Also on the reverse, in the center shall be placed the chapter symbol in the middle of the numeral of the year in which such chapter was chartered. On the lower line shall be the owner's name, together with the numeral of the class in which he graduated and the name of such college where graduation took place. Provided that the continued use of the older design of the badge shall be optional with the several chapters.

SEC. 2. The colors of this Society shall be electric blue and white.

SEC. 3. The official letter head shall be the monogram of the Society.

SEC. 4. The Seal shall consist of a wreath of laurel, typifying the honorary character of membership in the Society, arranged as an oval enclosing the words "THE SOCIETY OF THE SIGMA XI" at the top, and the motto "Σπουδῶν Συνῶνες" at the bottom. These words shall form an inner oval concentric with the first, punctuated with ten stars, and enclosing a field illumined by the lamp of research. Above the lamp in the field of illumination shall be placed the monogram "Σ Ξ," and below it the date of foundation, 1886.

ARTICLE VII

OFFICERS OF THE SOCIETY

SECTION 1. The officers of the Society shall be a president, a secretary, a treasurer, and an executive committee of seven, of which the president and secretary shall be *ex officio* members.

SEC. 2. The officers of the Society shall be elected at conventions for a term of two years, excepting that the elective members of the Executive Committee shall be chosen for terms of five years, one member to retire each year.

SEC. 3. The duties of the executive officers and of the Executive Committee of the Society shall be those which usually pertain to the several offices. The Secretary shall hold and preserve all the papers of the Society.

ARTICLE VIII

CONVENTIONS

SECTION 1. A regular convention of the Society, consisting of delegates from each chapter, shall be held annually at such time and place as determined by the Executive Committee of the Society, due notice being given to each chapter.

Delegates

SEC. 2. (a) Each chapter in good standing shall be entitled to a representation of not more than three delegates at each convention.

(b) The delegates representing any chapter shall be chosen from its resident or non-resident members; except that in case any chapter shall be unable to send its own members, it may appoint members of any other chapter as its representatives.

(c) In convention the votes shall be by chapters, each chapter having one vote.

Quorum

SEC. 3. The delegates from the chapters in good standing in the Society, present at a duly called meeting, shall constitute a quorum at a convention.

ARTICLE IX

EXPENSES

SECTION 1. Expenses of the Society which shall be voted by conventions shall be met by an assessment on the several chapters, pro rata, on the basis of their resident membership.

ARTICLE X

AMENDMENTS

SECTION 1. This Constitution may be altered or amended at a convention by a two-thirds vote of the chapters represented, provided such amendment has been proposed at the preceding convention.

ARTICLE XI

BY-LAWS

SECTION 1. Conventions shall make such by-laws not in conflict with this Constitution, as may be necessary for the proper government of the Society. Such by-laws shall become operative when confirmed by a majority vote of the chapters represented at a convention.

BY-LAWS

I. CONVENTIONS OF THE SOCIETY

1. At the conventions of the Society, the order of business shall be the following:—

(a) Appointment by the President of three members to serve as a committee on credentials.

- (b) Report of the committee on credentials.
 - (c) Reading of the proceedings of the last convention.
 - (d) Reports of officers.
 - (e) Reports from chapters.
 - (f) Reports of committees.
 - (g) General business.
 - (h) Election of officers.
 - (i) Adjournment.
2. The regular order of business at a convention may be suspended by the consent of three-fourths of the chapters represented.
 3. The appointment of each delegate to a convention shall be certified to by the President or Secretary of the chapter appointing him.
 4. The expenses of delegates shall be paid by the chapter sending them.
 5. The convention may designate an assistant secretary to keep the minutes of the meeting.

II. OFFICERS OF THE SOCIETY

1. The terms of the officers of the Society shall begin immediately after their election and continue for two years, or until their successors are elected. In case of vacancies, the Executive Committee shall designate officers to act until the next meeting of a convention.
2. Any vacancy caused by disability of, or resignation of the secretary, corresponding secretary, or treasurer, shall be temporarily filled by an appointment by the president until such office is filled by vote of the convention.

III. EXECUTIVE COMMITTEE

It shall be the duty of the Executive Committee to consider and make recommendations on the granting of charters as provided for in Article II, Section 3, on the basis of the following considerations:

1. In determining the award of a charter to an institution a close scrutiny shall be given to the facilities and opportunities of the institution for the advancement and encouragement of original research in science, and to the qualifications of its scientific faculty to accomplish these ends.

APPENDICES

The following appendices consist of extracts from the Society's convention records bearing on matters of general policy and administration.

APPENDIX I.

Report of the committee on policy of extension, Convention of 1895

"The policy of the Society in the establishing of new chapters is a matter of vital importance to its future growth and standing.

The Society was established in 1886 by a few earnest workers in the engineering sciences, as a means of rallying and encouraging those qualities which were deemed of the first importance in their own lines of investigation. It soon became broadened and enlarged to represent the general ideals of highest scholarship in the minds and before the ambitions of every earnest

student in any branch of science. It proposed to recognize and elect to its membership those men in our institutions of learning who should exhibit in a marked degree the qualifications of natural endowment and training required for successfully conducting original research in the various branches of science.

Thus *original research* bears the same relation to Sigma Xi as literary scholarship does to Phi Beta Kappa; and it is believed that the cause of original research, and that part of the higher education which trains the qualities required in scientific pursuits, will be benefited by honoring with election to Sigma Xi those men who during their college course show marked proficiency in these directions.

In founding new chapters the Society should realize its responsibility, and should not grant a charter to every institution that may think itself properly equipped to teach science; but on the contrary great care is necessary in establishing chapters, in order to ensure the proper discrimination of men who are to go forth as representatives of the best results of scientific education in the United States. To attain these ends our policy should be eminently and sternly conservative, while at the same time we should be fully alert and sensitive to the needs of progress in science and education.

We should not plant the Society in any institution which has not already developed a clear appreciation of the dignity and needs of the scientific education, and a vivid realization of the distinction between scientific and literary ability. In order to make Sigma Xi an honor society it is essential that the men of first rank in the institution be given election, and this will not be possible where Phi Beta Kappa sets the only standard of excellence, and scientific men are ranked as only second to literary scholars.

In establishing a new chapter, therefore, we should not take into consideration any claim of advantage to accrue to the institution by such chapter, or any mere desire of individuals to become members of the Society; but in each case we should make sure that we entrust the power of distributing the honor of membership only to such persons and institutions as are capable of giving the education and training necessary to the carrying on of scientific investigation, and as have shown by their organization and equipment that they know the requisite qualifications, and are likely to confer the honor where it properly belongs.

We should not only look for this active and pervasive spirit of research, but we should also be well assured of the hearty coöperation of the scientific faculty in the establishment of the local chapter, and in maintaining its standing in harmony with the interests of the Society.'

Recommendations, Convention of 1895

In order to secure these ends, upon motion of the chairman *pro tempore*, the following recommendations were adopted, regarding the policy of the Society in establishing new chapters:

(1) That the Council, in determining the award of a charter to an institution, should give a close scrutiny to the facilities and opportunities of the

institution for the advancement and encouragement of original research in the various branches of science, and to the qualifications of its scientific faculty to accomplish these ends.

(2) That the number of distinct branches of science represented by full professors in the institution should be at least five; and these branches should include mathematics, physics, chemistry, biology (some department of it) and engineering (some department of it).

(3) That the number of graduate and resident members of the institution required to make up the charter membership should be at least 10; and of these not less than 9 should be members of the instructing body; and each person should be adjudged by the Council to be fully worthy of membership in the Society.

APPENDIX II

Extract from presidential address, Convention of 1897

"The Society, if rightly guided, may take a place of leadership in the movement now going on to place science on an equality, so far as it deserves it, with literature as an element in the highest liberal education. Science at present owes its place in the higher education rather to its value as a direct means of attaining success in practical ways than to its value in general education. As such, science is to be compared rather with law, medicine or theology—technical fields of study, than with language, literature and philosophy, which are the essential factors of a liberal education.

The time has come for making a permanent place for science among those latter factors of the modern liberal education. In shaping the future policy and extension of Sigma Xi, this thought, if correct, should be kept in mind, Phi Beta Kappa stands for the traditional conception of the liberal culture, in which precedence is given to literature and what literature contains. In order to win a permanent place for science in that ideal education, it must be demonstrated that the study of science contributes a factor to this ideal which is not and cannot be furnished by the literary branches. This quality we believe to be found in the *ability and promise of original research*.

In extending the Society we should realize the importance of holding up this educational position of science for recognition and honor. The practical side of science is felt and appreciated more in the institutions of the West where progress and activity are more vigorous; the value of a broad and liberal education is more deeply appreciated in the East where competition is closer and where the machinery of society and custom is more rigid and exacting. Our ideal for science is broader than either of these. We would exalt the scientific study of things by giving it a place of honor among the humanities of a liberal culture, and we would give new vigor to scholastic study by infusing into it the live practical problems of modern science."

APPENDIX III

Extract from records, Convention of 1897

"Some discussion arose as to the use of Greek letters for designating the chapters. It was moved and carried that any officer may when he pleases use the ordinary (or geographical) name of a chapter instead of its Greek letter."

APPENDIX IV

Extract from records, Convention of 1899

"The following resolution was moved and carried: That the Society suggests to the several chapters that when the method of election is employed as provided for in the Constitution, Article IV, Section 4, as amended in 1899, the action of the board of electors be referred to the chapter for formal ratification."

APPENDIX V

Extract from records, Convention of 1899

"Moved and carried that the regular time of the meeting of the conventions of the Society be the week of meeting of the American Association for the Advancement of Science, and the place be the meeting place of the Association, unless otherwise provided for by the officers of the Society."

APPENDIX VI

Extract from address of President Williston, Convention of 1902

"The object of the Society is to weave a closer bond between those actuated by the desire of adding to the world's knowledge in science, or of making the world better because of science; to encourage the student in the pathway he has chosen; to support by mutual counsel; and to remove obstacles by a union of strength—in other words, to coördinate, to unify and to promote the spirit of scientific research in the University.

The pathways of science are already so diverse that we catch but brief glimpses of each other through the tangled growth of unexplored forest—we are constantly forgetting in our own zeal that there are others near by who are as zealous as we, and there seems to be no better way in the University by which we may be occasionally brought into the clearings for mutual advice. As teachers, the one chief bond between us is the training of the young in science—and what is the good of all our labor unless we help others to do better than we have done? It is the mission of the Sigma Xi to draw this bond more closely, to let us not forget that we are teachers above all else.

Permit me, therefore, to urge upon all the chapters the greater development of the educational and social side of our fraternity . . . I believe that the students should be elected to membership as early as possible, and be given the privileges of companionship and counsel while yet they are of most benefit to them . . . Such a custom is almost sure to bring about greater enthusiasm among both students and faculty, a more full attendance at the meetings, and what is best of all, permits a closer personal relationship between instructors and students . . .

The Society has served a most useful purpose in bringing into closer relationships not only those who are interested in the discovery of new truths, but also those who seek the new application of old truths. I believe that the full and sympathetic association of the students in all branches of scientific work should be continued—more indeed now than ever before, since the trend of college education is to differentiate early along the lines of professional

education. The Society should be further extended among our chief technological schools, schools that are destined to exert a still more powerful influence in the future.

APPENDIX VII

Extract from records, Convention of 1911

Instructions to the Council regarding admission of chapters: that at any petitioning institution there shall be a satisfactory and continuous output of research work.

OFFICIAL ANNOUNCEMENTS

A few extra copies are still to be had of the

QUARTER CENTURY RECORD AND HISTORY

A copy will be sent prepaid on receipt of \$2.50. The Secretary is not authorized to vary these instructions given by the General Convention.

PRINTED BLANKS

The General Convention has instructed the Secretary to keep for chapters a supply of printed blanks as enumerated below. According to instructions these are to be forwarded to chapters under the following stipulations:

Membership Certificates, stamped with the great seal of the Society. In packages of fifty prepaid, on advance payment of \$2.50 for each package.

Index Cards, on the condition that a duplicate set be sent for the general index of the Society maintained in the secretary's office. Gratis on demand.

Report Blanks, for submitting annual reports giving chapter officers, elections, and other statistical data. Gratis on demand.

SIGMA XI PUBLICATIONS

It has been proposed to bind up a number of sets of important early documents regarding Sigma Xi and to place a set in each of a selected series of the leading libraries of this country.

The undersigned will be glad to receive copies of such publications relating to the Society in general or to any one of its chapters which those interested may be able and willing to furnish for this purpose.

There are now ten imperfect sets on hand; can you aid in completing them?

HENRY B. WARD.

PROPOSED REVISION OF THE CONSTITUTION OF THE SOCIETY OF THE SIGMA XI

ARTICLE I

Name and Object

Section 1. The name of this organization shall be the *Society of the Sigma Xi*; its motto *Σπουδῶν Ζηλῶντες*—Companions in Zealous Research.

Section 2. The object of this Society shall be to encourage original investigation in science, pure and applied.

ARTICLE II

Chapters

Section 1. (a) An Institutional Chapter may be established at any educational institution in which scientific research is cultivated and promoted, or at any research institution which allows the same unrestricted rights of publication as educational institutions, provided that no institution shall be considered unless its permanency is shown to be reasonably assured by private endowment or state support.

(b) An Alumni Chapter may be established at any place where the objects of the Society would be furthered thereby. **Alumni Chapters have all the rights and privileges of institutional Chapters, except that of electing new members and associates.**

Section 2. A petition for a charter for the establishment of a new chapter shall be communicated to the President of the Society, who shall refer it to the Executive Committee of the Society for consideration. When reported by the committee, a three-fourths vote of the convention shall be necessary for authorizing the granting of a charter.

Section 3. A charter for the establishment of a new chapter shall be issued by the President immediately after the convention, granting it in the following form:

To whom it may concern. Be it known that a Charter for the establishment of an.....chapter of the Society of the Sigma Xi at....., **to be known as the chapter**, is hereby granted to the following persons as Charter Members, conveying to them and their duly elected associates and successors all the privileges conferred by the Constitution of the Society:

.....

.....

In witness whereof the signatures of the President and Secretary and the seal of the Society are hereunto affixed on this the.....day of..... in the year of our Lord.....

ARTICLE III

Membership

Section 1. Membership of the Society. (a) **The Society shall consist of members and associates.**

(b) **The membership of the Society shall be further classified as Chapter Members and Chapter Associates and Alumni Members and Alumni Associates. Chapter Members and Associates shall be those members and associates of the Society who are actively connected with the staff or student body of an institution at which there is a chapter. Alumni members and associates shall be respectively those members and associates of the Society who are not actively connected with an institutional chapter.**

Section 2. Membership of Chapters. (a) **The membership of an institutional chapter shall be composed of members and associates of the Society who are actively connected with the staff or student body of the institution; and alumni members and (subject to the restrictions of Section 5 of this article) associates of the Society who, on presenting satisfactory credentials, become affiliated with the chapter. Such alumni members and associates shall have all the duties and privileges respectively of chapter members and associates of the chapter with which they are affiliated, except voting.**

(b) **The membership of an alumni chapter shall be composed of such alumni members and associates of the Society as, by virtue of nearby residence, become affiliated with the chapter.**

Section 3. Eligibility: Members. The following, and no others, are eligible to **election** as members in a chapter at any institution: (a) any professor, instructor, or **other member of the staff** of the institution who has shown noteworthy achievement as an original investigator in some branch of pure or applied science; (b) any registered student who, as judged by his actual work of investigation, has exhibited an aptitude for scientific research.

Section 4. Eligibility: Associates. Each Chapter shall have the privilege of providing in its by-laws for the election of associates. When a chapter elects to have associates, the following and no others shall be eligible to **election as associates** in that chapter: (a) any graduate student who has shown marked excellence in **one** or more departments of pure or applied science; (b) any student who has completed two and one half years of undergraduate work and who has shown marked excellence in two or more departments of pure or applied science.

Section 5. (a) Associates shall have the privileges of members, except the right to vote, with only such other restrictions as are specifically stated in the Constitution and By-Laws of the Society, or in the by-laws of the chapter.

(b) An associate of any chapter who becomes connected with another institution at which there is a chapter whose by-laws provide for associate membership shall be entitled to enroll as associate therein on presenting satisfactory credentials.

Section 6. Eligibility: Alumni members (by election). **The following and no others are eligible to election as alumni members of the Society:** (a) Any graduate of the institution of not less than five years' standing

on the conditions prescribed in (a) of Section 3 of this article; (b) any professor, instructor or investigator, connected with a neighboring educational, scientific, or professional institution not having a chapter, who would otherwise be eligible for membership on the conditions prescribed in (a) of Section 3 of this article; (c) any associate within five years after graduation on the conditions prescribed in (b) of Section 3 of this article. After the expiration of five years associates are subject to the conditions of (a) of this section.

ARTICLE IV

Election of New Members and Associates

Section 1. Members and associates shall be elected only by institutional chapters and only according to the provisions of Section 2 of this article.

Section 2. (a) Each nomination shall be made in writing and shall present full testimony as to the eligibility of the nominee and shall be signed by at least two members as nominator and seconder. Such written nomination shall be sent to the chapter's recording secretary and by him transmitted to the chapter's president who shall be chairman ex-officio of a committee on nominations, not fewer than five in number, selected by ballot at the annual election of the chapter's officers. Interim vacancies on the committee shall be filled by the committee itself.

(b) The committee on nominations shall pass on all nominations duly submitted and shall present to the chapter for election only those nominations that have been approved by the committee.

(c) The chapter shall vote on these nominations only and an affirmative vote of three-fourths of the chapter members present shall be necessary for election.

(d) A chapter having more than twenty-four members may empower its committee on nominations to make elections to membership, in which case a unanimous vote of the committee on nominations shall be necessary for election.

ARTICLE V

Initiation

Section 1. After election according to the provisions of Article IV both members- and associates-elect shall, before they exercise the privileges of membership, be initiated at such time after the election as the by-laws of each chapter shall designate, according to the form prescribed in Section 2 of this article.

Section 2. (a) The members- and associates-elect shall be ushered into the presence of the chapter by a marshal or marshals to be appointed by the president for the occasion.

(b) The president or his deputy shall explain the aims and objects of the Society.

(c) The president shall next read the following pledge, to which each novice shall in turn assent as his name is called: Do you hereby pledge yourself to uphold the principles of the Society of the Sigma Xi, and assume the responsibilities incumbent upon active (or associate) membership therein?

(d) The president then addressing those who have taken the pledge, shall formally pronounce them admitted to membership in the Society of the Sigma Xi, and shall invite them to sign the Constitution.

(e) Each new member **or associate** shall affix his signature to the Constitution, and shall then receive from the president the certificate of membership.

(f) The president shall present the new members **and associates** to the chapter.

Section 3. Should any member- **or associate-elect** be unavoidably absent from the general initiation, he may, at the pleasure of the chapter, be provided with an opportunity to assent to the pledge given in Section 2 (c) and to sign the Constitution, and the president shall then formally admit him to the Society, and present him with the certificate of membership.

Section 4. The certificate of membership of this Society shall bear the signatures of the president and secretary of the chapter, and the seal of the Society.

The form of certificate should be as follows:

The Society of the Sigma Xi by this diploma certifies that.....
was on the.....day of.....in the year.....duly
elected to active (or associate) membership in the.....chapter of
the Society of Sigma Xi, and is fully entitled to all privileges granted by its Constitution.

ARTICLE VI

Insignia

Section 1. (a) The badge or symbol to be worn by members of this Society shall be a gold watch-chain pendant, charm, or pin of octagonal shape, bearing the monogram of the Greek letter Sigma, superimposed upon the Greek letter Xi. The monogram may be enameled, or embossed as desired. On the reverse side or back of the badge shall be engraved in the upper line the name of the chapter in which the owner was initiated, together with the date of such initiation. Also on the reverse, in the center shall be placed the numeral of the year in which such chapter was chartered. On the lower line shall be the owner's name. Provided that the continued use of the older design of the badge shall be optional with the several chapters.

(b) The badge or symbol to be worn by associates shall be a pin having the Greek letters Sigma and Xi in white on an electric blue ground. On the reverse shall be the associate's name, name of the chapter in which the associate was initiated, and the date of initiation.

Section 2. The colors of this Society shall be electric blue and white.

Section 3. The official letter-head shall be the monogram of the Society.

Section 4. The Seal shall consist of a wreath of laural, typifying the honorary character of membership in the Society, arranged as an oval enclosing the words "The Society of the Sigma Xi" at the top, and the motto Σπουδᾶν Ἐνὶ Δυνάμει at the bottom. These words shall form an inner oval concentric with the first, punctuated with ten stars, and enclosing a field illuminated by the lamp of research. Above the lamp in the field of illumination shall be placed the monogram Σ Ξ and below it the date of foundation, 1886.

ARTICLE VII

Officers of the Society

Section 1. (a) The officers of the Society shall be a President, a Secretary, a Treasurer, and an Executive Committee of **nine**, of which the President, Secretary, **Treasurer and chairman of the Alumni Committee** shall be *ex officio* members.

(b) The duties of the executive officers and of the Executive Committee of the Society shall be those which usually pertain to the several offices. The Secretary shall hold and preserve all the papers of the Society.

Section 2. (a) **There shall be an alumni committee of five elected by the convention from the alumni members of the Society.** The term of office of each member shall be five years, one member to retire each year. The senior member of the committee, or some other member chosen by it, shall be its chairman, who shall also be *ex officio* a member of the Executive Committee of the Society.

(b) The duties of the Alumni Committee shall be to represent the alumni members of the Society at conventions and in such other ways as may from time to time be advisable.

Section 3. (a) The officers of the Society shall be elected at conventions. At least **three months** before each annual convention the President of the Society shall appoint a nominating committee of three, one of whom shall be an alumnus member of the Society. This committee shall make at least one nomination for each office to be filled. Election shall be by plurality vote of the convention.

(b) The terms of office of the President, Secretary and Treasurer shall be two years each. The terms of the elective members of the Executive Committee shall be five years each, one member to retire each year.

ARTICLE VIII

Conventions

Section 1. A regular convention of the Society, consisting of delegates from each chapter **and from the alumni members of the Society**, shall be held annually at such time and place as determined by the Executive Committee of the Society, due notice being given to each chapter, **and to alumni members through the official Journal of the Society.**

Section 2. Delegates. (a) Each chapter in good standing shall be entitled to a representation of not more than three delegates at each convention. **The members of the alumni committee shall be ex officio delegates representing the alumni members of the Society.**

(b) The delegates representing any chapter shall be chosen from its chapter members; except that in case any chapter shall be unable to send its own members, it may appoint members of any other chapter as its representatives.

(c) In convention each chapter represented **and each member of the alumni committee shall have one vote.**

Section 3. Quorum. The **accredited** delegates present at a duly called meeting, shall constitute a quorum at a convention.

ARTICLE IX

Dues and Expenses

Section 1. (a) **Members and associates belonging to or affiliated with a chapter shall pay to the chapter such annual dues as may be provided in the chapter by-laws.**

(b) Any chapter member or associate in arrears for one year shall be duly notified of this fact by the secretary of the chapter, and in event of failure to respond within six weeks may be suspended from chapter membership in the Society. On payment of arrearage he may be reinstated by vote of the chapter. If such reinstatement is not effected in one year his name shall be deleted from the rolls of the chapter. Thereby he becomes automatically an alumnus member or associate.

Section 2. **Alumni members and associates shall contribute to the support of the Society in such ways as may be mutually agreed upon by the Executive Committee and the alumni committee. All sums so collected shall be separately accounted by the treasurer of the Society and shall be known as the alumni fund.**

Section 3. **In the initiation fee of each newly elected member or associate the chapter shall include the sum of one dollar for the general treasury of the Society, to be collected by the chapter treasurer and forwarded by him to the treasurer of the Society.**

Section 4. **The expenses of the Society shall be met by assessments on the several chapters and on the alumni fund in such ratio as may be mutually agreed upon by the Executive Committee and the alumni committee. Such assessments shall be authorized, upon recommendation of the Executive Committee by vote of the convention. The assessment on the chapters shall be met by a pro rata levy on each chapter on the basis of its membership, including associates and affiliated alumni members?**

ARTICLE X

Amendments

This Constitution may be altered or amended at a convention by a two-thirds vote of the convention, provided such amendment has been proposed at the preceding convention or shall have been submitted by any chapter to the several chapters through the Executive Committee not less than ninety days prior to the date of the next coming convention. **The publication of such proposed amendment in the official Journal of the Society shall be adequate and full notice as required by the terms of this article.**

ARTICLE XI

By-Laws

Conventions may make such by-laws not in conflict with this Constitution, as may be necessary for the proper government of the Society. Such by-laws shall become operative when confirmed by a majority vote of the convention.

APPENDICES

(Appendices I-IX, inclusive, consisting of extracts from the Society's convention records and bearing on matters of general policy and administration, will be included here.)

APPENDIX X

Extract of Records of St. Louis Convention (1919).

Resolved, That the establishment of chapters in research centers in foreign institutions, being within the provisions of the Constitution of the Society is a desirable development in the efforts of Sigma Xi to encourage the spirit of fellowship in research.

APPENDIX XI

The following are recognized as special functions of the Society in fulfilment of the object stated in Article I, Section 2 of this constitution:

(a) The holding of meetings for the discussion of scientific subjects; (b) the establishment of fraternal relations among investigators in the scientific centers; (c) the granting of membership to such students as have, during their college course, given special promise of future achievement; (d) the publication of such scientific matter as may be deemed desirable; and (e) **the supporting of fellowships for research.**

The functions of the several chapters shall be mainly those connected with (a), (b), (c) and (d). **The functions of the alumni membership of the Society shall be mainly those connected with (b), (d) and (e).**

APPENDIX XII

The alumni fund shall be used primarily for the support of fellowships. Its administration shall be in the hands of the Executive Committee, which through the official Journal of the Society, shall make a report annually, of all receipts and disbursements.

BY-LAWS

I. Conventions of the Society

1. At the conventions of the Society, the order of business shall be the following:

(a) Appointment by the President of three members to serve as a Committee on Credentials.

(b) Report of the Committee on Credentials.

(c) Reading of the proceedings of the last convention, unless these have been previously printed in the official Journal of the Society.

(d) Reports of officers.

(e) Reports from chapters.

(f) Reports of committees.

(g) General business.

(h) Election of officers.

(i) Adjournment.

2. The regular order of business may be suspended by a three-fourths **vote** of the **convention**.

3. The appointment of each **chapter** delegate to a convention shall be certified to by the President or Secretary of the chapter appointing him.

4. The expenses of delegates shall be provided by the chapter sending them.

5. The convention may designate an assistant secretary to keep the minutes of the meeting.

II. Officers of the Society

1. The terms of the officers of the Society shall begin immediately after **the close of the convention at which they were elected** and continue for **the terms specified in the Constitution**, or until their successors are elected. In case of vacancies, the Executive Committee shall designate officers to act until the next meeting of the convention.

2. Any vacancy caused by disability of, or resignation of the Secretary, or Treasurer, shall be temporarily filled by an appointment by the President until such office is filled by vote of the convention.

3. The expenses of the Secretary of the Society in attending the annual convention shall be paid from the Treasury of the Society.

III. Executive Committee

1. It shall be the duty of the Executive Committee to consider and make recommendations on the granting of charters as provided for in Article II, Section 3, on the basis of the following considerations:

In determining the award of a charter to an institution a close scrutiny shall be given to the facilities and opportunities of the institution for the advancement and encouragement of original research in science, and to the qualifications of its scientific faculty to accomplish these ends. (See also Appendix IX.)

2. On call of the President of Sigma Xi, the Executive Committee shall hold annually at least one stated meeting, independent of other organizations, and the expenses of those in attendance shall be paid from the National Treasury of Sigma Xi.

CHAPTER OFFICERS

LIST FURNISHED BY THE CORRESPONDING SECRETARIES OF THE CHAPTERS

CHAPTER	PRESIDENT	VICE-PRESIDENT	SECRETARY	TREASURER
Cornell.....	S. Simpson.....	T. R. Briggs.....	A. H. Wright...	O. A. Johannsen
Rensselaer...	M. A. Hunter...	R. B. Bourne...	E. M. Clark...	W. J. Williams
Union.....	C. F. Garis.....	J. N. Vedder...	M. F. Sayre...	M. F. Sayre
Kansas.....	F. E. Kester...	G. E. Coghill...	C. M. Sterling...	H. E. Jordan
Yale.....	G. A. Baitsell...	S. J. Record....	F. L. Troxell....	A. H. Smith
Minnesota....	R. E. Scammon..	R. A. Gortner...	A. T. Henrici...	F. K. Butters
Nebraska.....	D. D. Whitney..	Leunis Van Es..	E. N. Anderson..	M. G. Gaba
Ohio.....	R. C. Osburn...	M. Hollingsworth.....	C. A. Norman...	T. G. Phillips
Pennsylvania..	O. L. Shinn.....	W. C. Farabee...	H. C. Barker....	H. S. Colton
Brown.....	P. H. Mitchell..	R. F. Chambers..	R. F. Borden....	C. H. Currier
Iowa.....	H. L. Rietz.....	L. P. Sieg.....	C. H. Farr.....	J. F. Reilly
Stanford.....	A. F. Rogers....	P. E. Swain.....	J. E. Coover....	
California....	G. N. Lewis.....	Frank Daniel...	D. R. Hoagland..	A. C. Alvarez
Columbia.....	J. K. Finch.....	W. I. Slichter...	Harold A. Fales..	Harold A. Fales
Chicago.....	F. R. Moulton..	A. J. Carlson...	C. R. Moore.....	C. R. Moore
Michigan.....	John C. Parker..	A. F. Shull.....	P. O. Okkelberg..	A. J. Decker
Illinois.....	J. B. Shaw.....	R. Adams.....	H. J. Van Cleave	F. B. Seely
Case.....	W. R. Veasey...	C. D. Hodgeman..	R. C. Hummel...	T. M. Focke
Indiana.....	Will Scott.....	M. E. Hufford...	C. A. Malott....	C. E. Edmonson
Missouri.....	C. W. Greene...	R. H. Baker.....	C. R. Moulton...	O. R. Johnson
Colorado.....	R. D. Crawford..	Ivan E. Wallin..	Paul M. Dean...	F. S. Bauer
Northwestern	C. B. Atwell...	F. C. Whitmore..	A. E. Cole.....	M. B. Fuller
Syracuse.....	O. W. H. Mitchell.....	C. C. Adams.....	L. C. Petry.....	H. F. A. Meier
Wisconsin....	V. Lenher.....	O. P. Watts.....	G. W. Keitt.....	H. W. March
University of Washington	S. H. Anderson..	J. C. Rathbun...	A. F. Carpenter..	T. G. Thompson
Worcester...	H. P. Fairfield..	M. Masius.....	A. J. Knight....	C. D. Knight
Purdue.....	A. N. Topping...	R. H. Carr.....	H. S. Jackson...	T. E. Mason
Washington University..	G. T. Moore...	M. T. Burrows..	P. R. Rider.....	L. Pyle
District of Columbia...	Paul Bartsch...	J. Warren Smith	M. C. Hall.....	L. E. Whittemore
Texas.....	C. Hartman....	B. C. Tharp....	C. T. Gray.....	H. J. Ettlinger
Mayo Foundation.....	W. C. Kendall...	W. C. MacCarty	T. B. Magath...	T. B. Magath
North Carolina.....	J. H. Pratt.....		J. M. Bell.....	
North Dakota	R. T. Young....	B. J. Spence...	B. J. Clawson..	B. J. Clawson

Offices of Recording and Corresponding Secretary combined according to advice of Convention with the exception of Yale and Texas in which chapters only the Corresponding Secretary is listed.

List corrected up to March 1, 1922.

OFFICIAL ANNOUNCEMENTS

Associate membership emblems can be secured only by order from the chapter secretary to the national secretary. All orders must be prepaid. Special order blanks sent on request.

QUARTER CENTURY RECORD AND HISTORY bound in electric blue cloth. 1886-1911. 7,500 names. 550 pp. \$2.50.

SIGMA XI PUBLICATIONS

QUARTERLY, Volumes 1-7, 1913-19, four numbers each, unbound, 50 cents per each volume. Forwarded prepaid on receipt of draft or money order in payment of the amount indicated.

Title-Page and Table of Contents of any volume on request.

Those ordering a complete set of the QUARTERLY and HISTORY will receive in addition until the supply is exhausted without extra cost a copy of each of the Proceedings of the early Conventions as follows:

Seventh (Philadelphia) Convention. 1904. Pamphlet. 15 pp.

Eighth (New York) Convention. 1906. Pamphlet. 7 pp.

Ninth (Chicago) Convention. 1908. Pamphlet. 14 pp.

Tenth (Baltimore) Convention. 1909. Pamphlet. 6 pp.

Eleventh (Boston) Convention. 1909. Pamphlet. 16 pp.

Twelfth (Minneapolis) Convention. 1910. Pamphlet. 27 pp.

Thirteenth (Washington) Convention. 1911. Pamphlet. 27 pp.

Later conventions are reported in the QUARTERLY.

PRINTED BLANKS

The General Convention has instructed the Secretary to forward to chapters under the following stipulations:

Membership Certificates, stamped with the great seal of the Society. In packages of fifty prepaid, on advance payment of \$2.50 for each package. Please specify carefully whether for regular or associate members.

Index Cards, provided a duplicate set be sent for the general index of the Society maintained in the secretary's office. Gratis.

Statistical Record Blanks, for submitting annual reports giving chapter officers, elections, and other statistical data. Gratis.

MAILING LISTS FOR THE QUARTERLY

Chapter secretaries are requested to furnish a correct list of mailing addresses of active members for the printer. Blank forms. Gratis on demand.

The mailing list should be sent early in September and be valid for the academic year. All changes of address and all other correspondence should be addressed to the Secretary of Sigma Xi, Edward Ellery, Union College, Schenectady, N. Y.

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